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# Social-Psychological Response To Forced Relocation Due to Watershed Development

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ABSTRACT

Construction of water impoundment projects often necessitates relocation of numerous rural residents which can result in social disruption of established interaction patterns within affected groups. A research study was conducted within two communities in West Virginia and two communities in Ohio which had recently been subjected to watershed development. The objective of the research was to evaluate the social-psychological response of local residents to the forced relocation and subsequent disruptive effects of the resettlement. The dependent variable used in the research was community alienation. The findings revealed that the affected community groups were not significantly different in terms of alienation from the non-affected base groups. This finding suggests that forced relocation did not consistently lead to personal alienation from the changed community. It was noted, however, that negative attitudes were identifiable among the affected community members but the negative comments appeared to be directed toward the change agency and toward physical relocation rather than the community per se.

# Social-Psychological Response to Forced Relocation Due to Watershed Development

The primary objective of this paper is to analyze the social-psychological response of rural community residents to the effects of forced relocation due to externally imposed water resource development. Rural areas are being developed by water resource agencies at an ever-increasing rate due to the expanding need for water from public and private sectors of the society. Watershed projects will undoubtedly continue to be located in rural areas since high density population and intensive land use nearly always preclude the selection of urban areas as sites for large-scale impoundment projects.

In many instances, water resource projects necessitate relocation of numerous long-term community residents which is a disruptive influence on small-scale social systems. This paper is a report of research conducted in the summer of 1970 in Ohio and West Virginia which was designed to provide some insight into the social-psychological response of rural residents to the disruptive effects of population relocation due to watershed development.

## Group Response to Watershed Development

Recent journal articles and research bulletins have contributed much to the understanding of group response to watershed development. Wilkinson [1966, 1970] has investigated acceptance of watershed projects in terms of resident group involvement in the initiation and implementation of water resource projects. Burdge and Ludtke [1970a, 1970b] have isolated several factors which were significant in the explanation of local residents' apprehension toward physical relocation from communities subjected to water

resource development. Smith, Hogg and Reagan [1971] have analyzed group response to water resource projects in terms of the anticipated and actual economic impact of an impoundment project upon a small community in Oregon.

Each of the above mentioned research reports revealed that social disruption resulted from the developmental action and that the affected community groups exhibited differing responses to the watershed development. The reactions of the affected groups were varied. Some groups perceived the projects as having negative effects for them while others believed that the projects would bring about increased economic and social viability to the affected community.

## Alienation and Forced Relocation Theory

The theory which was developed to explain group response to the disruptive effects of forced relocation was developed about the concept of alienation. If forced relocation of people is perceived by the affected group as being disruptive of established interaction patterns then the potential exists for alienation. Seeman [1959] and Blauner [1964] have conceptualized alienation as a complex phenomena that is characterized by feelings of: powerlessness, meaninglessness, social alienation and self-estrangement. Blauner's [1964:15-34] evaluation of large complex industrial situations has shown that an individual has the potential for alienation when. (1) the individual is powerless to control external forces affecting his life; (2) the individual's roles are fragmented and not integrated into the total social system in which he operates; and (3) the individual is a member of a social system but not a part of the group. When a community group has established some type of functional equilibrium [Bredemeier and Stephenson, 1965:54-59], then alienation should result when an external change agent initiates action

which disrupts the established functional relationships. The application of sanction by the external developmental group should increase the potential for alienation since the subject group is powerless to negate the actions of the external group.

The potential exists for alienation when individuals encounter situations over which they have little or no control and when the situation imposed upon them is perceived as having negative effects for them. In essence, a person or a group will have the potential for alienation when external forces demand change that is perceived by the individual as having negative effects for him. The alienation potential is increased when the external forces possess the power of sanction to insure that the change is implemented.

Another factor that contributes to alienation of a community group, which is subject to externally imposed change, is the "fragmentation" of the existing social order due to the exposure to outside influence [Greer, 1962: 48-51]. When small-scale community groups become closely interdependent with larger-scale social units, the potential exists for a loss of local control of community affairs because urban social systems are in a position to strongly influence norms and values of the rural people. Therefore, the response to external forces which demand change or adaptation of small-scale systems will vary from cooperation to conflict depending upon the effect upon the group [Bertrand, 1966:453-456]. One could conclude that external involvement in local community affairs may be vigorously resisted when the change is perceived as having negative effects upon the subject group. If the subject group is powerless to impede the external change, then the group should become alienated from the resultant changing situation.

## Derivation of Hypotheses

From the previous theoretical position, several hypotheses for testing were derived. Hypothesis number one can be stated as follows: Community groups which are directly affected by forced relocation of population due to water resource development will become alienated[2] from the changing community situation. The logic for the hypothesis is that communities directly affected by watershed development will be subject to: (1) considerable population relocation; (2) outside intervention into local affairs; (3) fragmentation of the local normative order due to the exposure to external group norms; and (4) disruption of established interaction patterns due to the population relocation and subsequent outmigration. The external change agent also possesses coercive power in the form of eminent domain which means that the local group is powerless to halt construction of the impoundment projects. The lack of local group power to control its own destiny and the social changes which should occur as a result of the disruptive effects of population relocation should create a situation conducive for alienation of the subject group. The affected group should perceive the community situation as being less than adequate in providing for its needs and become alienated from the changed situation. Due to the changing composition of the community group established interaction systems and behavioral patterns must be reconstituted. Established interaction patterns will be disrupted which should result in the development of alienated attitudes about the changing community situation.

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[2]Alienated means that the individuals within the group possess: (a) a feeling of self-estrangement from the other community members; (b) that they are without influence in their community group; (c) that they are not important as individuals and (d) that the community does not adequately provide for their perceived needs.

Hypothesis number two may be stated as follows: Relocated people in the affected community groups will exhibit greater alienation than the non-relocated community group members. The hypothesis was based upon the belief that physical relocation would operate as a compounding disruptive factor for the relocated people.

Hypothesis number three may be stated as follows: Alienation resulting from the disruptive effects of externally imposed change will decrease as the affected groups adjust to the changed situation. Groups affected by watershed development should become less alienated from their changed community situation as reintegration of the social system occurs. The basic predictions regarding community response to the disruptive effects of forced relocation which can be derived from the theory are conceptualized as follows:

Figure 1

| Low Community Alienation Scores | Base[5] Groups | Post[4] Shock | Initial[3] Shock | High Community Alienation Scores |
|---|---|---|---|---|

[3]Initial shock groups are the communities in the initial stages of community disruption. Land acquisition at the time of the study was two percent completed in both initial shock communities.

[4]Post shock groups are the communities in which the developmental action had been completed. Relocation of population was completed in late 1968 and early 1969 in the post shock communities.

[5]Base groups are the non-affected community groups used for comparative purposes.

When the compounding factor of physical relocation is added to the continuum the following situation was predicted:

Figure 2

| Low Community Alienation Scores | Base Groups | Post Shock Non-Relocated | Post Shock Re-located | Initial Shock Non-Relocated | Initial Shock Re-located | High Community Alienation Scores |
|---|---|---|---|---|---|---|

The base groups should have the lowest community alienation scores since they have not been affected by forced relocation due to watershed development. The post shock groups should be less alienated than the initial shock groups since restructuring of the communities should have taken place. The initial shock groups were undergoing the first stages of the relocation and the uncertainty associated with the relocation should result in severe alienation, therefore, the initial shock groups should exhibit the greatest degree of alienation.

## Methodology

### Operationalization of Alienation

Alienation was operationalized in terms of Seeman's [1959], Blauner's [1964] and Srole's [1956] use of the concept. The basic components of alienation were powerlessness and self-estrangement.

A 21-item Likert-type scale [Edwards, 1957] was constructed from the alienation literature [Meier and Bell, 1959; Nettler, 1967; Neal and Rettig, 1963]. The scale was pretested on a rural student group that had recently encountered the unfamiliar social system of a large university. The student responses were subjected to internal consistency item analysis [Rundquist and Sletto, 1956; Cleaver, 1968] to determine the reliability of the instrument.

The item analysis resulted in a Spearman-Brown prophesy value of .91 which can be interpreted as a very reliable measurement instrument. The scale was administered to the subject groups and subjected to item analysis which resulted in a Spearman-Brown prophesy value of approximately .91.

Examples of the items used in the community alienation scale are as follows:

a) I would associate with most people in this community;

b) Most elected officials cannot be trusted;

c) Few of my neighbors are concerned about me as a person;

d) Most of the leaders of this community are concerned about me as a person;

e) Most of the people in this community cannot be trusted.

The Rundquist and Sletto technique of arbitrary weighting was used for the determination of item values [Ferguson, 1953:128-132]. The weighted values of the scale items were summated to provide an alienation score for each community member and the individual scores were grouped by community and by subdivisions of the communities for analysis purposes. The techniques used for analysis were one-way analysis of variance [Blalock, 1960:242-272] and t-tests for the difference between means [Blalock, 1960:170-178]. The possible range of alienation scores was from 21 [completely non-alienated] to 105 [completely alienated].

## Research Design

Experimental design was used in the development of the research project. The research design consisted of a combination of static group comparisons and control group comparisons [Campbell and Stanley, 1963:12-16].

The design may be conceptualized as follows:

| | W. Va. Groups | Ohio Groups |
|---|---|---|
| Initial Shock Groups | R X O | R X O |
| Post Shock Groups | R X O | R X O |
| Base Groups | R O | R O |

The R denotes randomization, the X represents the stimulus and O represents the observation.

Four communities affected by watershed development were selected as the experimental groups and two nonaffected communities were chosen as control groups. Two of the affected communities were in the initial stages of population relocation while the relocation in the other two affected communities had been completed. The two base communities were not directly affected by forced relocation of population.

Two of the affected communities and one of the base communities were located in central Ohio while the remaining communities were located in the southwestern portion of West Virginia. The communities hereafter will be referred to by elapsed time since the initiation of the relocation and by state. The groups which were undergoing population relocation at the time of the study will be referred to as the "initial shock" communities. The communities in which the relocation had been completed will be termed "post shock." The control groups will be referred to as Ohio base and West Virginia base.

The experimental groups were sub-divided into relocated and nonrelocated groups to analyze the effect of relocation as a compounding alienating factor. The groups to be relocated will be referred to as the initial shock relocated groups. Even though the initial shock relocated people had not been relocated at the time of the study, they were aware that they would be required to move.

A systematic random sample [Blalock, 1960:397-398] was taken from each community. Every fourth occupied dwelling was systematically sampled with the initially selected residence chosen at random. If the interview was denied, the adjacent residence was selected until the interview was granted at which time the original procedure was again applied. A structured questionnaire was used by the interviewers to control for possible interviewer bias. An adult member of each selected household was interviewed. The sample distribution by community and by sub-division of communities is presented in Table 1. [Table 1 about here].

## Community Descriptions

The directly affected groups were small rural communities which were economically non-industrial based. The work force in each of the communities was primarily engaged in blue-collar occupations with approximately 50 percent of the group members working outside of their respective communities. The people in the selected communities were white and native born. The population of each community had been stable or declining slowly and the people were long-term residents who were property owners. A summary of the characteristics of the sample is presented in Table 2. [Table 2 about here.].

## Sources of Community Disruption

Alienation, if present, cannot be attributed to service interruption since very little inconvenience was imposed upon the affected groups. Gas, water and electric services operated without interference and highways to be relocated were not removed until other access ways were made available. The source of community disruption was in the form of physical relocation of community

residents. There were 125 families directly affected by land acquisition in the West Virginia "post shock" community and approximately 140 in the Ohio "post shock" community. The "initial shock" groups were in the first stages of land acquisition but the number of families to be relocated was comparable to the "post shock" groups.

Inspection of detailed county maps which specified occupied housing provided an estimate of approximately 500 families within each affected area. The relocated portion of each group, therefore, consisted of 20-25 percent of the total number of families in the affected communities.

## Findings

The one-way analysis of variance findings for the West Virginia community groups are presented in Table 3. The findings revealed that significant differences existed among the West Virginia groups but the differences were not consistent with hypothesis 1. The initial shock group's mean alienation score was significantly lower than the post shock group mean but was not significantly different from the base group. The t-tests for the difference between means for the various groups yielded the following results: (A) The t-value for the West Virginia initial shock group and base group was 0.69 which was not significant at the .05 level with 104 degrees of freedom. (B) The t-value for the initial shock group and post shock group was 3.5 which was significant at the .001 level with 122 degrees of freedom. (C) The t-value for the post shock group and the base group was 2.83 which was significant at the .01 level with 108 degrees of freedom. [Table 3 about here].

Inspection of the mean scores in Table 3 revealed that the West Virginia post shock group's mean alienation score was higher than the base group but

the initial shock group mean was not. This finding is contrary to the stated hypothesis which predicted both affected groups would be higher than the non-affected base group. The initial shock group was significantly less alienated than the post shock group which is not supportive of the hypothesized model.

The analysis of variance findings for the Ohio community groups did not reveal any significant differences among the groups. The analysis of variance findings are presented in Table 4. Subsequent t-tests for differences between means did not disclose any significant differences among the groups. The t-test findings for the Ohio communities are as follows: (A) The t-value for the initial shock group and the base group was 0.2 which was not significant at the .05 level with 108 degrees of freedom. (B) The t-value for the post shock group and the Ohio base group was 1.46 which was not significant at the .05 level with 108 degrees of freedom. (C) The t-value for the initial shock group and the post shock group was 1.14 which was not significant at the .05 level with 118 degrees of freedom. [Table 4 about here].

The findings of the Ohio groups indicated that hypothesis 1 was not supported since the groups were not significantly different. Both affected groups were comparable to the non-affected base group in terms of the variable measured. The stimulus of forced relocation and subsequent community disruption apparently did not elicit the development of negative attitudes among the affected community members. Since no consistent pattern could be isolated in the West Virginia groups and no significant differences could be noted in the Ohio groups, hypothesis one must be rejected.

The affected community groups were subdivided into relocated and non-relocated groups to evaluate the relative impact of physical relocation as a compounding alienating factor. The analysis of variance findings for the subdivided groups basically reproduced the findings of the total groups which

were presented in Tables 3 and 4.

The findings for the West Virginia subdivided communities are presented in Table 5. The findings demonstrated that significant differences existed among the groups but the differences were confined to the post shock affected groups as shown by t-tests for difference between means. [Table 5 about here].

The t-test findings for the West Virginia subdivided community groups were as follows: (A) The t-value for the initial shock relocated and nonrelocated was 1.65 which was not significant at the .05 level with 58 degrees of freedom. (B) The t-value for the post shock relocated and nonrelocated groups was 1.08 which was not significant at the .05 level with 62 degrees of freedom. (C) The t-values for the initial shock relocated and initial shock nonrelocated compared to the base group were 1.76 [with 74 degrees of freedom] and 0.35 [with 78 degrees of freedom] respectively which were not significant at the .05 level. (D) The t-values for the post shock relocated and nonrelocated compared to the base group were 2.5 [with 74 degrees of freedom] and 2.16 [with 78 degrees of freedom] respectively which were both significant at the .05 level.

These findings show that the West Virginia initial shock relocated group's mean score was comparable to the initial shock nonrelocated group's mean alienation score and to the base group's mean score. The data also shows that the post shock relocated and nonrelocated groups were not significantly different from each other even though both were significantly different from the base group. These findings are not consistent with hypothesis two which predicted that the relocated groups would exhibit significantly higher alienation scores than the nonrelocated portions of the affected community groups. None of the West Virginia affected community groups supported this position. The data also does not fit the theoretical model presented in Figure 2. The initial shock groups did not exhibit the highest alienation scores relative to

the post shock and base groups.

The analysis of variance findings for the Ohio subdivided community groups are presented in Table 6. The findings for the Ohio groups did not reveal any significant differences among the groups. [Table 6 about here].

The t-tests for the various possible combinations of the Ohio groups failed to isolate any significant differences among the groups. The t-test findings for the Ohio groups were as follows: (A) The t-value for the initial shock relocated and nonrelocated groups was 0.31 which was not significant at the .05 level with 58 degrees of freedom. (B) The t-value for the post shock relocated and nonrelocated groups was 0.44 which was not significant at the .05 level with 58 degrees of freedom. (C) The t-values for the initial shock relocated and nonrelocated groups compared to the Ohio base were 0.34 and 0.04 respectively which were not significant at the .05 level with 78 degrees of freedom. (D) The t-values for the post shock relocated and nonrelocated groups compared to the Ohio base were 1.08 and 1.45 respectively which were not significant at the .05 level with 78 degrees of freedom.

The findings for the subdivided community groups indicate that hypothesis two must be rejected. None of the relocated groups were significantly more alienated than the appropriate nonrelocated groups. The findings suggest that physical relocation per se did not act as a compounding alienating factor in the affected community groups.

Hypothesis three may be evaluated in terms of the preceding analysis of variance tables and subsequent t-tests. The hypothesis basically stated that alienation would decrease as reintegration began to occur within the affected communities. The findings do not support this position since the data revealed that forced relocation of population did not result in alienated subject groups. The theoretical model was not supported since few significant differences were

discovered among the subject groups. No consistent pattern could be isolated, therefore, it was concluded that community disruption associated with the forced relocation did not result in alienated subject groups. The theoretical model presented in Figure 2 was not supported.

Additional t-tests were conducted to determine if significant differences could be isolated between states. Community groups in Ohio were compared to the corresponding community groups in West Virginia. The data from Tables 3 and 4 were used for the computation of the inter-state t-tests. The inter-state t-test findings were as follows: (A) The t-value for the Ohio initial shock group and the West Virginia initial shock group was 1.81 which was not significant at the .05 level with 118 degrees of freedom. (B) The t-value for the Ohio post shock group and the West Virginia post shock group was 3.4 which was significant at the .01 level with 122 degrees of freedom. (C) The t-value for the Ohio base and West Virginia base was 0.39 which was not significant at the .05 level with 98 degrees of freedom. (D) The t-value for the Ohio post shock group and the West Virginia initial shock group was 1.07 which was not significant at the .05 level with 118 degrees of freedom. (E) The Ohio post shock group did not significantly differ from the West Virginia base because the t-value of 1.44 was not significant with 104 degrees of freedom. (F) The West Virginia initial shock group and the Ohio base group were significantly different since the t-value of 2.05 was significant at the .05 level with 108 degrees of freedom. These findings suggest that state of residence was not a significant factor in explaining alienation.

## Summary and Discussion of Findings

The research findings revealed that forced relocation of people due to watershed development did not consistently result in alienated subject groups.

The affected groups' attitudes about their community situation appeared to be a function of variables other than the stimulus of forced relocation of population. Negative attitudes were discovered among the affected groups but they were directed toward the external change agent and toward the inconvenience of physical relocation rather than the social relationships within the community.

The theoretical model presented in Figures 1 and 2 was basically repudiated by the research findings. Forced relocation of population and subsequent community disruption did not result in alienated subject groups. No consistent pattern among the groups in terms of community alienation could be isolated. The experimental groups, except for the West Virginia post shock group, did not significantly differ from the appropriate control groups. The theoretical model was predicated upon the assumption that external change in the form of forced relocation would elicit considerable social disruption within the affected community groups and that the disruption would fragment the established interaction patterns of the group. It was further argued that the fragmentation of the established interaction patterns would result in a lessening of the cohesion of the community group. Under these conditions the subject group members should develop a feeling of self-estrangement, a feeling of powerlessness to control the situation and a feeling that the community was not providing for their social needs adequately. This situation was not discovered in the investigated community groups.

A partial explanation for the apparent lack of community alienation may be attributed to the relocation pattern of the displaced people. The relocated groups [post shock groups] moved or intended to move [initial shock groups] within the noninundated portion of the affected communities. The relocated groups were, therefore, able to maintain group membership [post shock groups] or believed that they would be able to maintain group membership

[initial shock groups]. Apparently the maintenance of group membership prevented the fragmentation of established interaction patterns. The people in the affected groups were, therefore, able to maintain group cohesion during the stressful period which impeded the development of alienation among the members of the affected groups. The physical relocation imposed severe inconvenience upon the relocated people but did not destroy long established interaction patterns.

Part of the deviation of the West Virginia post shock group may be attributed to the labor disputes between the resident population and the project contractor. Information provided by local residents revealed that the construction firm employed relatively few local residents. The labor disputes eventually resulted in open conflict between the local people and the contracting firm. Intra-community conflict resulted from the disputes due to the alignment of various community factions with the dissident groups. Such a situation is not conducive to harmonious relationships and could lead to individual self-estrangement from the group. Since the West Virginia post shock group was the only group to experience such social difficulties, the alienation of the members of this group is probably the result of the exogeneous factor of the labor disputes rather than the effect of the stimulus of externally imposed forced relocation.

While community alienation as it was defined in the research did not appear to be present among the affected group members, considerable negative attitudes concerning physical relocation were noted. The findings for the open-ended questions revealed severe negative attitudes toward physical relocation and treatment by the government among the affected people. One-hundred fifteen of the relocated people[6] responded to the open-ended question regarding

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[6]The 115 included the initial shock relocated people who were to be relocated.

their attitude toward physical relocation and approximately 75 percent indicated that they had developed extremely negative attitudes about being removed from their established homes. Of the 112 relocated people who responded to the question concerning treatment by the government during the land acquisition 64 percent indicated that they had been treated unfairly.

The findings for the open-ended questions suggest that forced relocation of population leads to the development of negative attitudes and that the negative feelings are directed toward the external change agent and toward the inconvenience of physical relocation. The findings of the open-ended question strongly suggest that the theoretical position developed to explain community alienation may be applicable to the explanation of negative attitudes toward the external change agent and toward physical relocation.

Table 1

Subject Distribution By Subdivisions of Communities

| | W. Va. Community Groups | | | Ohio Community Groups | | |
|---|---|---|---|---|---|---|
| | Initial Shock | Post Shock | Base | Initial Shock | Post Shock | Base |
| Non-Relocated | 30 | 30 | | 30 | 30 | |
| Relocated | 30 | 34 | | 30 | 30 | |
| Base | | | 46 | | | 50 |

Table 2

Summary Statistics for Selected Communities: Characteristics of Sample

| | $\bar{X}$ Years | | | Ownership | | Occupation | Employment | |
|---|---|---|---|---|---|---|---|---|
| | Age | Length of Residence | Years of Education | Own | Rent | % Blue Collar | % Work in Community | % Work Out Community |
| Initial Shock W. Va. | 46.2 | 21.9 | 10.1 | 92% | 8% | 72% | 48% | 52% |
| Post Shock W. Va. | 46.6 | 19.3 | 9.1 | 75% | 25% | 74% | 50% | 50% |
| W. Va. Base Group | 44.9 | 23.3 | 12.7 | 66% | 34% | 53% | 55% | 45% |
| Initial Shock Ohio | 43.4 | 15.4 | 12.7 | 80% | 20% | 68% | 49% | 51% |
| Post Shock Ohio | 54.8 | 22.8 | 11.0 | 87% | 13% | 78% | 61% | 39% |
| Ohio Base | 44.5 | 19.3 | 11.7 | 74% | 26% | 65% | 52% | 48% |

Table 3

One Way Analysis of Variance for Community Alienation:
West Virginia Communities

| Groups | Initial Shock | Post Shock | W. Va. Base | F-Ratio |
|---|---|---|---|---|
| Sample Size | 60 | 64 | 46 | 7.3* |
| Mean | 44.6 | 52.4 | 46.2 | |
| Standard Deviation | 13.3 | 11.1 | 11.1 | |

*Significant at the .001 level with 2,167 degrees of freedom.

Table 4
One Way Analysis of Variance for Community Alienation:
Ohio Communities

| Groups | Initial Shock | Post Shock | Ohio Base | F-Ratio |
|---|---|---|---|---|
| Sample Size | 60 | 60 | 50 | 1.9* |
| Mean | 48.7 | 46.7 | 49.1 | |
| Standard Deviation | 11.5 | 6.9 | 9.5 | |

*Not significant at the .05 level with 3,167 degrees of freedom.

Table 5

One Way Analysis of Variance for Community Alienation:
West Virginia Subdivided Communities

| Groups | Initial Shock Relocated | Initial Shock Non-Relocated | Post Shock Relocated | Post Shock Non-Relocated | W. Va. Base | F-Ratio |
|---|---|---|---|---|---|---|
| Sample Size | 30 | 30 | 30 | 34 | 46 | 4.8* |
| Mean | 41.7 | 47.4 | 54.0 | 50.9 | 46.2 | |
| Standard Deviation | 10.6 | 15.2 | 13.8 | 8.0 | 11.1 | |

*Significant at the .001 level with 4,165 degrees of freedom.

Table 6

One Way Analysis of Variance for Community Alienation:
Ohio Subdivided Communities

| Group | Initial Shock Relocated | Initial Shock Non-Relocated | Post Shock Relocated | Post Shock Non-Relocated | Ohio Base | F-Ratio |
|---|---|---|---|---|---|---|
| Sample Size | 30 | 30 | 30 | 30 | 50 | 0.58* |
| Mean | 48.2 | 49.2 | 47.1 | 46.3 | 49.1 | |
| Standard Deviation | 10.8 | 12.3 | 6.8 | 7.1 | 9.5 | |

*Not significant at the .05 level with 4,165 degrees of freedom.

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